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MAPPING OF RESOURCE USE AREA BY THE
BAKA PYGMIES INSIDE AND AROUND
BOUMBA-BEK NATIONAL PARK IN
SOUTHEAST CAMEROON, WITH SPECIAL
REFERENCE TO BAKA'S CUSTOMARY RIGHTS

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MAPPING OF RESOURCE USE AREA BY THE BAKA PYGMIES INSIDE AND AROUND BOUMBA-BEK NATIONAL PARK IN SOUTHEAST CAMEROON, WITH SPECIAL REFERENCE TO BAKA'S CUSTOMARY RIGHTS

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ABSTRACT In the beginning of the year 2000 the Cameroon government created several protected areas within the framework of efforts aimed at biodiversity conservation in southeast Cameroon, one of which is the Boumba-Bek National Park. The creation of this park restricted the rights of the Baka indigenous hunter-gatherers living in the region to use the resource there. To take into consideration adequately the customary rights of this indigenous people in the management and development of this protected area, we carried out scientific studies as part of investigation by the WWF Cameroon on how the Baka use this forest space. Results of these studies revealed that the Baka have been using the forest for various purposes for a long time. Resources used by the Baka in this forest are very important for them economically, socially and culturally. To accommodate the Baka customary rights to access the forest resources, the management plan for Boumba-Bek National Park should be partly modified to elaborate sufficiently the actuality of Baka traditional use of land and resources.

Key Words: Indigenous peoples; Hunter-gatherers; Protected area; Southeast Cameroon.

INTRODUCTION

For almost 20 years, discussions on indigenous peoples (IPs) have taken center stage at the international level. With this growing global attention, the place and rights of these populations in relation to the management and conservation of forest resources is most recurrent (Persoon et al, 2004; Aquino, 2004). There is controversy, meanwhile, especially concerning the customary rights of IPs in connection with the creation and management of protected areas (Stevens, 1997; Nelson & Hossack, 2003; Schmidt-Soltau, 2003; 2004; 2009; Colchester et al., 2008). Debates center on, among others issues, the foundation of these rights, the participation of IPs in the establishment and management of protected areas, and compatibility of their use of natural resources in relation to conservation principles.

In some parts of the world, especially in Asia and North America, the debate has become popular over the years thanks to scientific works on the issues. In Central Africa on the contrary, scientific investigations on the ground is still

insufficient for the local people and agencies to act for the customary rights of IPs. In a bid to throw more light on the issues that are debated and above all to assist the Cameroon government to engage in the process aimed at firmly including the customary rights of IPs in the management of protected areas, scientific investigations were carried out on many aspects including use of space and resources by the Pygmies in some protected areas, such as Campo Ma'an, Dja, Boumba-Bek, and Nki.

The management plan is supposed to provide an opportunity for stakeholders to recognize and protect certain customary rights of the Baka and to ensure their participation in the planning and management entities. To make this possible, and to take into account the wishes of Baka to safeguard their customary rights in the protected area, several organizations have initiated a process which aims at protecting the customary rights of the Baka in the management plans for Boumba-Bek and Nki National Parks (NPs).

This process includes, among others, mapping of Baka resource and space uses, advocacy, reinforcing organizational capacities, negotiations, etc. In order to establish a scientific basis for its contribution to the process, World Wide Fund for Nature (WWF) Cameroon commissioned a study aimed at identifying all contours of the use of Boumba-Bek and Nki forest massif by the Baka. This paper presents some of its results, which will be incorporated into the forthcoming management plan, and from which planning and co-management efforts will be pursued.

STUDY SITE AND PEOPLE

Boumba-Bek and Nki NPs are located in southeast Cameroon. The geographical region which is the subject of WWF Cameroon Southeast Project covers 23,000 km² of tropical moist forests (Fig. 1). A part of the Congo Basin, the area harbors high densities of forest wildlife with more than 40 species of large mammals, 120 fish species, and 305 bird species (Nzoo Dongmo et al., 2002). The area is inhabited by about 110,000 people, comprising Bantu- and Ubangian-speaking agriculturalists, Baka Pygmy hunter-gatherers, and immigrants from various parts of Cameroon and neighboring countries. The Bantu and other agricultural groups, the Baka, and migrants constitute 60%, 25% and 15% of the total population, respectively. The northern and eastern part of Boumba-Bek NP and its buffer zone where this study was conducted contains 23,269 inhabitants, composed of 49% mostly Bantu and other agriculturalists, 29% Baka, and 22% immigrants⁽¹⁾. Relationships between the Bantu villagers and Baka are complex, but in most areas, the latter are marginalized and dominated by the former (Joiris, 2001; 2003; Abéga & Bigombé, 2006).

Traditionally, both the agriculturalists and Baka have "acephalous" societies, with loose social and organizational structures. Baka Pygmies have been predominantly hunter-gatherers. Before the 1950s, they were leading a nomadic life style in small camps in the forest (Althabe, 1965). Since the colonial period, almost all populations have been concentrated in about a hundred small villages

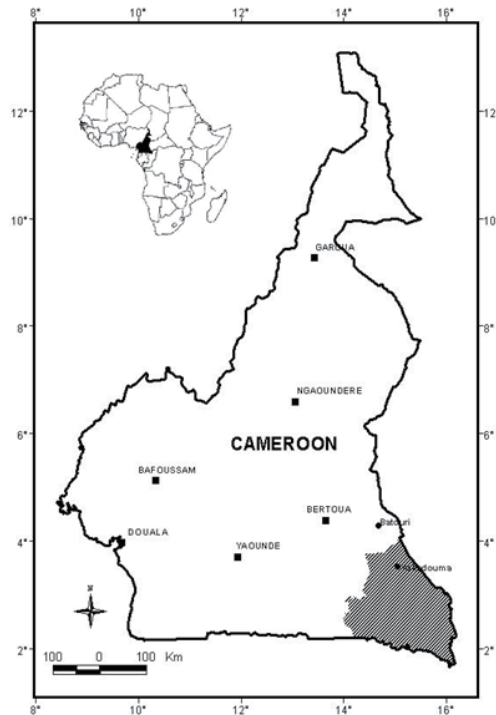


Fig. 1. Research area in southeast Cameroon.

along the main roads. Following change in the political as well as economic situations, Baka have more or less become semi-sedentary agriculturists who also depend on hunting and gathering for their livelihood. The main economic activity of the Bantu people is slash-and-burn agriculture, in which they grow plantain, cassava, maize, groundnuts, as well as cacao as cash crop. Hunting, fishing and gathering of non-timber forests products are also important for them. Some are employed in other sectors, such as government services, logging, sport hunting, and mining⁽²⁾. Animal husbandry is poorly developed. Compared with other regions of Cameroon, the people in this forest region are particularly poor. Poverty in the region is contrasted with its biological and mineral richness (Defo, 2005), for the people derive little economic benefit from these resources.

INADEQUATE INVOLVEMENT OF THE BAKA INTO THE LAND USE PLANNING

In the wake of prescriptions of the Rio de Janeiro Conference in 1992 related to the preservation of biodiversity, the Cameroon government committed to conserve 30% of its national territory (Law No. 94/01). Efforts aimed at

concretizing these commitments were made manifest, amongst others, through the putting in place of several conservation projects, and the establishment of many protected areas, through the adoption of a land use plan for Southeast Cameroon (Decree No. 95/678).

Southeastern Cameroon caught the attention of conservation organizations and the government, thanks to its rich biodiversity. As early as 1995 the area was demarcated for protection. This management option was later confirmed by the Cameroon government in establishing a regulatory framework for land use in southeastern Cameroon. This zoning framework made provision for the establishment of several wildlife reserves in the region, one of which was the Boumba-Bek NP. It was axiomatic then, that plans to create wildlife reserves in this region would restrict access of local people to certain areas. As the government pursued its zoning plan in conformity with biodiversity conservation, the government, supported by WWF and German Technical Cooperation (GTZ) proceeded with the classification of forestland in southeastern Cameroon between 1999 and 2001. In conformity with requirements of Decree (No. 135/D/MINEF/CAB) spelling out procedures for zoning the forests in the permanent forest domain, the zoning went through the following main stages: sharing of information with the public, sensitization of administrative authorities, awareness raising and consultation with local populations, holding commission meetings on the Divisional level, and the completion of the zoning document. This process was rounded off by prime ministerial decrees signed in 2001 for establishment of Lobéké NP, and in 2005 for establishment of Boumba-Bek and Nki NPs.

These decrees finally divided the forest into permanent and non-permanent forest domains in conformity with Article 20 of Law No. 94/01. The permanent forest domain, which covers more than three fifths of the total surface area which is subject of the project, 3 council forests, 10 sport hunting zones formerly allocated to 22 logging concessions, and 3 national parks (Lobéké, Boumba-Bek, and Nki). The non-permanent forest domain is made up principally of agro-forestry zones, with 14 community hunting zones superimposed on them (Fig. 2).

Even though we appreciate efforts made by different actors, from the technocrats who designed the zoning plan to the authorities that created the regulatory framework specifically for this exercise, it is important to raise concerns on the unsatisfactory involvement of the Baka hunter-gatherers in the zoning process. During the process, the recognition of "human occupation of territory" was limited only to clear indicators of human inhabitation such as settlements, farming fields and fallows that can be identified by aerial photographs and satellite images (Côté, 1993).

This method can distinguish a village area where almost all agro-pastoral activities are permitted to some extent, the non-permanent forest domain and areas where access is restricted by regulation, such as national parks and sport hunting zones. But, this procedure can only take into account the land used by sedentary farmers, and the mode of occupation and exploitation by the semi-nomadic hunter-gatherers were largely invisible and ignored. Beyond this technical shortcoming, one has to raise concerns regarding the feasibility of

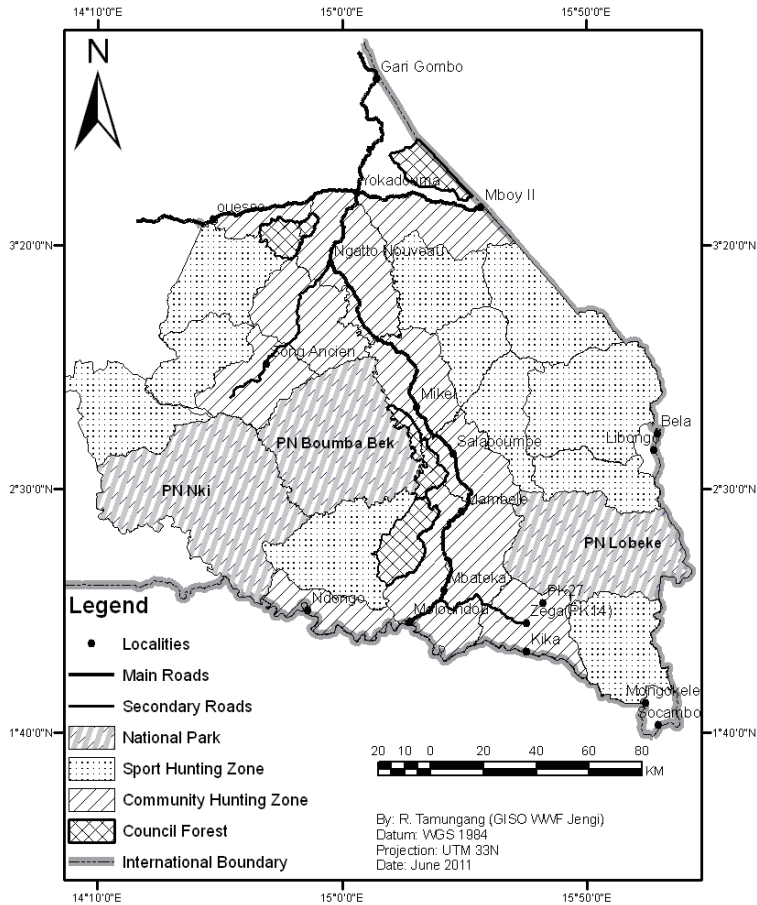


Fig. 2 Land-use classification in southeast Cameroon.

carrying out zoning in an area like southeastern Cameroon, where people live in the forest that is a continuum consisting of farmlands, and hunting, fishing and gathering fields connected by a network of trails (Karsenty & Marie, 1998: 164).

In addition, considering dimensions beyond the zoning code that governs the actual classification of the fields (Decree No. 135/D/MINEF/CAB), we realize that the zoning process did not guarantee an optimal involvement of the Baka in the process. It was difficult for the zoning operation to take into account the specificities of the Baka who hardly understand French, rarely frequent public places, and are less inclined to frankly express their points of view in the presence of their Bantu brethren. Public notices must be written in French and published in the press, posted at the Senior Divisional and Sub-divisional offices, town halls and delegation in charge of forests in the region concerned

(Article 1 of Decision No. 135/D/MINEF/CAB). Letters that convened awareness raising meetings with the local people must be addressed to village chiefs, who are the Bantu or other farmers. Despite efforts of the field teams to involve Baka people in the zoning process, given the above procedure of regulatory framework, the participation of Baka in the zoning process was very small. Indeed, as previously stated, the creation of national parks implies a significant restriction of the rights of people in the space concerned, laying down detailed rules for application of wildlife laws. Article 2 of Decree No. 95/466/PM declared the prohibition of any intervention that can alter the appearance, composition and evolution of the protected area, including hunting, farming, and logging.

In this situation, the Government of Cameroon proposed to develop a management plan which recognizes the customary rights of the Baka and to ensure their participation in the planning and management process. As mentioned above, this process includes mapping of Baka's land and resource uses, which will be a scientific basis for negotiations with other stakeholders and advocacy of their customary rights.

METHODS

We collected data on Baka land and resource uses in the field research for a total of 216 days between March 2006 and July 2007. Methods used to collect data included participatory mapping, focal group discussions, interviews, and direct observation.

Twenty-one semi-sedentary settlements located near major roads, usually at the end of the Bantu villages, in the study area were visited by the research team. The team explained to the Baka the aim of the research, and sought their consent to facilitate the participatory mapping process, then carried out a census of the population, discussed their activities, some momentous historical events and social organization or any other information that was related to the use of land and resources in the forest, in particular in the national park area. When trekking with the Baka into the forests, given the close relationship between Baka and their Bantu neighbors, the Bantu people designated by the Baka accompanied the team in the participatory rapid appraisal mapping and expeditions in the forest.

For each camp, field research was organized between 6 to 11 days per settlement depending on the distance and resource space covered, and we obtained geo-referenced data on Baka land and resource use using Global Positioning System (GPS) and/or the Cyber Tracker, in particular in the forest on the side of national parks. The Baka people accompanying us explained to us the importance of each land and resource visited, and we tape recorded these accounts, or wrote them down in a notebook. At the end of each day, a group discussion enabled us to clarify any misunderstanding and to correct errors.

Then, we estimated the degree of penetration in the following way: (1) We recorded the signs of activities on the trail from the departure point towards

the interior of the forest, including hunting camps, fishing camps, places for gathering non-timber forest products such as honey, *Irvingia gabonensis* nuts, *Baillonella toxisperma* fruits, medical plants, etc., using the GPS, guided by a participatory map previously drawn in cooperation with the Baka in the village. (2) We classified signs of activities and transferred the recorded geo-referenced data into ArcView software, and processed to generate thematic maps. (3) We then estimated the area of the penetration by Baka activities, clipping the forest into two areas mechanically by distance from the nearest sign of activities, namely areas in extents of 0–3 km from the nearest signs, which we will be call the “high penetration area,” and areas within 3–9 km from the nearest signs, which we will call the “low penetration area⁽³⁾.”

Adding to this geographical analysis, we strove to understand the history of the exploitation and use of land and resources. One of our major focuses was the continuity and change in the Baka use of forest land and resources: for example, why one space is no longer used while other space is still used, why a certain trail is more frequently used than other trails. Through these attempts, we tried to understand how Baka communities could organize themselves in order to use the forest resources in a better way. The results of these informal interviews will be shown in the Discussion section to compliment the abovementioned geographical analysis.

RESULTS

The places the Baka stay in the forest are not haphazardly chosen. Around the forest camps, we generally found a watercourse from which they fetched water. Staying at one such camp, they go to hunt, fish, and gather other non-timber forest products. The same area is used for other activities simultaneously or successively, whereas others are subjected to a single activity. Figs. 3 & 4 reflect the different but overlapping distribution of different forest resources used by the Baka.

The total surface area of strong penetration area was estimated to be about 3,420 km² (Fig. 4; Table 1). In this area, trails connect different forest camps to others, and to their settlements situated along the main roads. Along these networks of trails, forest camps are set, from which Baka manage resources and space through a variety of activities. The Baka there conduct various land and resource use, sometimes interwoven and or superimposed, such as camping along rivers and stream, hunting small and medium-sized games, gathering non-timber forest products, and fishing, as well as conducting agricultural activities in the fields and conducting rituals in the sacred sites.

Snare hunting is very often practiced in this area. The penetration into the remote areas from the settlements may be caused in certain cases by the decline of wild animal population in the nearby forests. Increase in number of migrants from different regions may have also deepened the penetration into the forest.

In the area near the settlement along the motor roads, there is a competition between hunting-gathering and agricultural activities. Therefore, the Baka, and

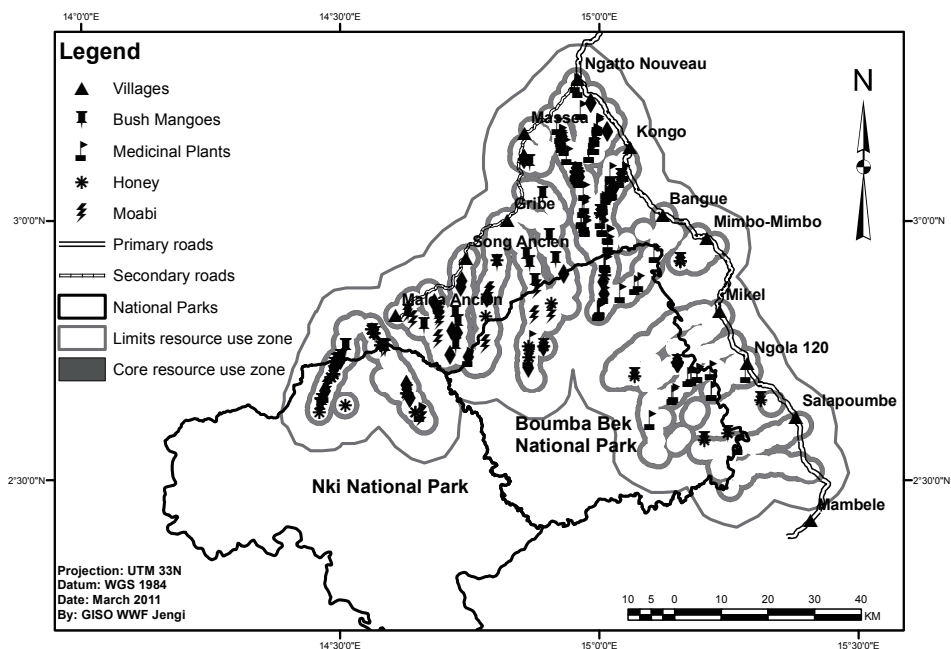


Fig. 3. Mapping of the land and resource use of the Baka inside and around Boumba-Bek and Nki NPs.

the Bantu cultivators in particular, who find themselves in a dilemma, for example, whether to reserve the bush mango trees (*Irvingia* spp.) and moabi trees (*Baillonella toxisperma*, producing edible fruit and oil) for gathering resources, or to clear them for cultivation. Much of the land in this area is now devoted to cultivation and dwelling spaces, such as cocoa and food crops plantations and farmers' houses along the trails leading to the forest.

The total surface area of low penetration area was estimated to be about 2,770 km² (Fig. 4; Table 1). This area is located further inside the forest, and the degree of penetration by the Baka in this portion of land is relatively low for two reasons. First, the surveillance by game rangers instills a bit of fear in the Baka who stay in the deeper part of the forest. The long distance one must travel to the villages may be another reason. While the Baka do not regularly visit this area, it is necessary for them to cover this area for various reasons from a long-term point of view. They even go into both national parks to carry out various activities, and then about one third of the penetration area is included within the two national parks (Table 1). The Baka visit this part of the forest occasionally, for example, during long-term forest expeditions (*molongo*) for gathering wild yams, in particular, in the major dry season (Yasuoka, 2006a; 2009a), or they visit other villages that share a common ancestral relationship through the forest. And sometimes they conduct big game hunting or searching for medicinal plants in the deeper parts of the forest. As both game and useful

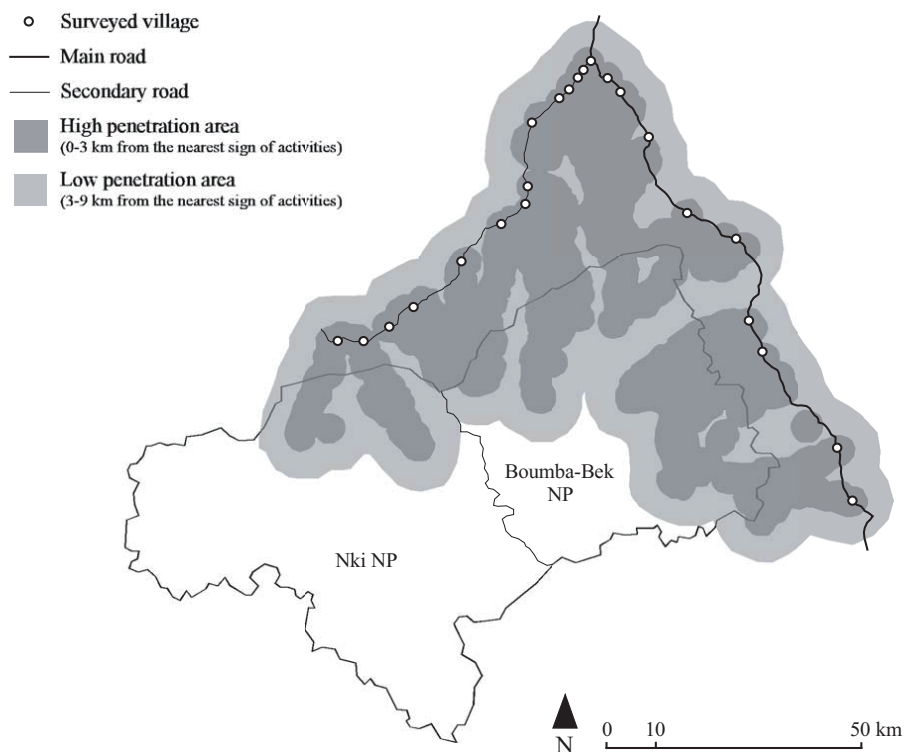


Fig. 4. Penetration area of Baka activities and national parks. This map is a trace of Fig. 3 created with ArcView software.

Table 1. Estimate of penetration area of Baka activities by distance from the nearest signs of activities

Zone	Distance from the nearest sign of activities	Penetration area (km ²)		
		Total	Inside of NPs	Outside of NPs
High penetration area	0–3 km	3,420	1,230	2,190
Low penetration area	3–9 km	2,770	1,160	1,610
Total	0–9 km	6,190	2,390	3,800

Table 2. Penetration area of Baka activities into the national parks

	Total NP area (km ²)	Penetration area (km ²)		
		Total	High penetration	Low penetration
Boumba-Bek NP	2,382	1,720	970	750
Nki NP	3,093	670	260	410
Total	5,475	2,390	1,230	1,160

plants become rarer in the nearby agro-forestry areas, the low penetration area could become more important for their hunting and gathering life.

As shown in Table 2, large parts of the two national parks are penetrated by Baka while carrying out their activities. It should be noted that, in Boumba-Bek NP, 40% of its surface was estimated as high penetration area, and 78% as the total penetration area. Those in Nki NP were calculated to be only 8% as high penetration area, 22% as the total penetration area, although people living in the southern and western parts of the park, who are out of the scope of this paper, may penetrate this part of the forest. These figures clearly show that forest included in national parks, especially in Boumba-Bek NP, are very relevant to Baka life in this region.

DISCUSSIONS

I. Forest, the Continuous Entity

While many biologists and foresters believed that Baka had been living along the main roads since the 1960s, without carrying out much activity in deep forest that is today designated as the protected area, social scientists and activists, in particular, have demonstrated that the use of forest is very important to the Baka (Hattori, 2006; Yasuoka, 2006b). To identify the area exploited by the Baka, we should not limit ourselves to studying a parcel of forests that has been encroached upon. That is to say, there are different degrees of signs of transformation, material and symbolic exploitation of space. As emphasized by Serge Bahuchet (1997), the vast stretch of forest is a very important area to the Baka who need it as actual as well as potential ground to obtain foodstuff, medicines, materials for handicrafts, and other essential materials of their life. Moreover, the area where Baka in a certain village carry out their socio-economic and cultural activities extends beyond the agro-forestry area and penetrates almost 10 km into the Boumba-Bek NP.

Even though the zoning plan designed by the Cameroon forestry administration classified the forestland into agro-forestry areas and protected areas, the Baka recognize no meaning in the distinctions. The carving out of a protected area does not mean to them that the park is a separate entity with specific regulations. For the Baka, the difference between the two areas is just an affair of the state. "We do not differentiate between mangoes or yams on this side and those on the other side of the Boumba [River] because they are the same," commented an elderly Baka. He also says, "The forest is the same, and we see no boundaries in it." There is neither the difference, for them, between natural resources found in the park and in the agro-forestry area. The Baka put importance on the "content," such as honey, wild yams, and various other foods. In contrast, the policy makers who divide the land place their attention on the "container," applying the "model of industrial division of labor and occupation of space" (Karsenty & Marie, 1998: 3). The Baka regard the forest as a wide and continuous entity, rather than an area made up of divided

parts. Therefore, they do not easily understand why harvesting certain resource is permitted on the outside of the protected area and not inside.

II. Nomadism and Vague Ownership of Land and Resources

The social regulation underlines the use of land and resources. Each Baka band, or a residential group consisting of one or several kinship groups, has a specific forest area in which they can use resources and lay claim to them. Members of the same kinship usually construct huts in specific areas inside the forest, from where they go hunting and gathering for different forest products. Thus, the boundaries of the forest area of each band are well known. An elderly Baka in the village of Gribe, who accompanied us into the forest, said, "This stream serves as boundary between us and the Baka in the village of Mikel." Such a spatial boundary is usually recognized by a tree, a hill or a river. The Baka avoid using land belonging to the neighboring band without prior authorization.

In spite of these rigorous boundaries of land use on the inter-band level, their actual resource use in their daily life is very flexible. Traditionally, the Baka do not attach any importance to the individual ownership of the land and forest. No member of a camp can claim exclusive ownership of land and resources. Although the first comers are entitled to using the forest resource in the area, others do not need any authorization to enter into the forest and use the resources⁽⁴⁾. Moreover, if someone maintains a friendly relationships with the people of other bands, they can go together into the heart of the forest to hunt or gather other forest resources. Therefore, in their daily life, they can acquire forest resources as if there is no restriction rule. It is only the availability of the resources concerned that influences their movement in the forest.

Moreover, the land within which their activities take place are hazy and always in flux, with their semi-nomadic life adapted to seasonal change of the available forest resources. Consequently, the sense of belonging to specific territory is of secondary importance. Given that the Baka way of life is predicated on free movement, or nomadism in the forest, the greatest obstacle for the Baka activities is the mutually exclusive territoriality that would restrict their movement in the forest milieu.

III. Customary Rights and Forest Management

Even before the official zoning of Boumba-Bek NP in 2005, there was some controversy in 2001 concerning the appreciation for Baka customary rights to resources (Ndameu, 2003). This included the topics in common with the globally discussed debate that has been going on for almost a decade about the impacts of protected areas on the local peoples' livelihood (Nelson, 2003; Schmidt-Soltan, 2003; 2004; 2009; Schmidt-Soltan & Brockington, 2004; 2007). The debate focuses mainly on the following two points: ways of adequate participation by the indigenous peoples in the zoning process and management of natural resources, with regard to the indigenous peoples' access rights to

resources in the protected areas (Ndameu, 2003; Nelson et al., 2001; Barume, 2005).

Our research results shown above demonstrate that Baka's traditional activities impact on 40% of the surface of the two national parks. The area has in no way been a "no human's land," but has been used by the hunter-gatherers for a long time. To emphasize the abovementioned points, we can probably blame the actors for having failed to consult the Baka, without carrying out consultation properly adapted to their culture. The shortcomings of this approach is evident when one considers the land zoning model that classifies lands based on the logic of sectioning the forest into areas for exclusively different use, which may take account of only the activities of agrarian civilizations, but ignores the mode of land use by the hunter-gatherers. The Baka use certain areas for several activities simultaneously or successively. As an example of such cases, there is a big game hunting area, which is often considered sacred, and in which some non-timber forest products are highly concentrated. Since the spaces where the Baka conduct their important foraging activities overlap, there is super-imposition of legitimacy in the use of resources. Thus, if the land use is prescribed in certain area in accordance only with a single purpose such as hunting, their use of non-timber forest products, such as honey, wild yams and medical plants in the remote area will be practically impossible. Needless to say, such a zoning and management model carved out in favor of the administrative and political concerns is in contradiction with the Baka's view of the forest as a continuous entity and their flexible use of land and resources.

The results from our study, that the Baka carry out activities well beyond the agro-forestry area and that they penetrate into the protected areas, demonstrate vividly that the management plan for Boumba-Bek and Nki NPs should be adjusted sufficiently to the actuality of traditional use of land and resources by the Baka, and their customary rights. In fact, Article 4 of the Decree creating Boumba-Bek NP clearly states that the user rights of local residents will be regulated under the development plan to be elaborated in a participatory process, although only the practices that are compatible with the objectives of sustainable use of natural resources concerned will be allowed (Decree No. 2005/3284/PM). Under this provision, it is clear that the access rights of Baka and their participation in the planning and management is far from proscribed, but simply limited. One of the biggest challenges will be to propose measures in tune with the perception and the representation of the local peoples, their traditional way of using resources and in compatibility with the exigencies of sustainable management⁽⁵⁾.

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NOTES

- (1) WWF Jengi unpublished data.
- (2) Until recently, mining in the area was conducted in a rudimentary way but industrial mining is starting in the area.
- (3) According to Yasuoka (2006a; 2006b; 2009), the Baka mostly use areas within 3 km from the forest camps. This assumption is not far from the truth.
- (4) In the Baka community, it is the first visitor to a place that is entitled to use the resources there. The resources are marked by a scratch on the tree girdle, breaking twigs in the surrounding small shrubs, or a scrape on the ground. Following this logic of “first come, first served,” if a particular Baka group originally visits mostly the western part of Boumba-Bek NP, its members seldom visit, for example, the eastern part of the park. They have little knowledge of the resources in a forest that they do not often visit.
- (5) It should also be noted that the Baka share a huge part of these resources and space with their Bantu neighbors, who are also forest-living people in the region, whereas the access to the forest resources by peoples from other areas is regulated by state laws and regulations on the management and use of forest (Law No. 94/01 20 January 1994; Decree No. 95/466/PM 20 January 1995; Decree No. 95/531/PM 23 August 1995).

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